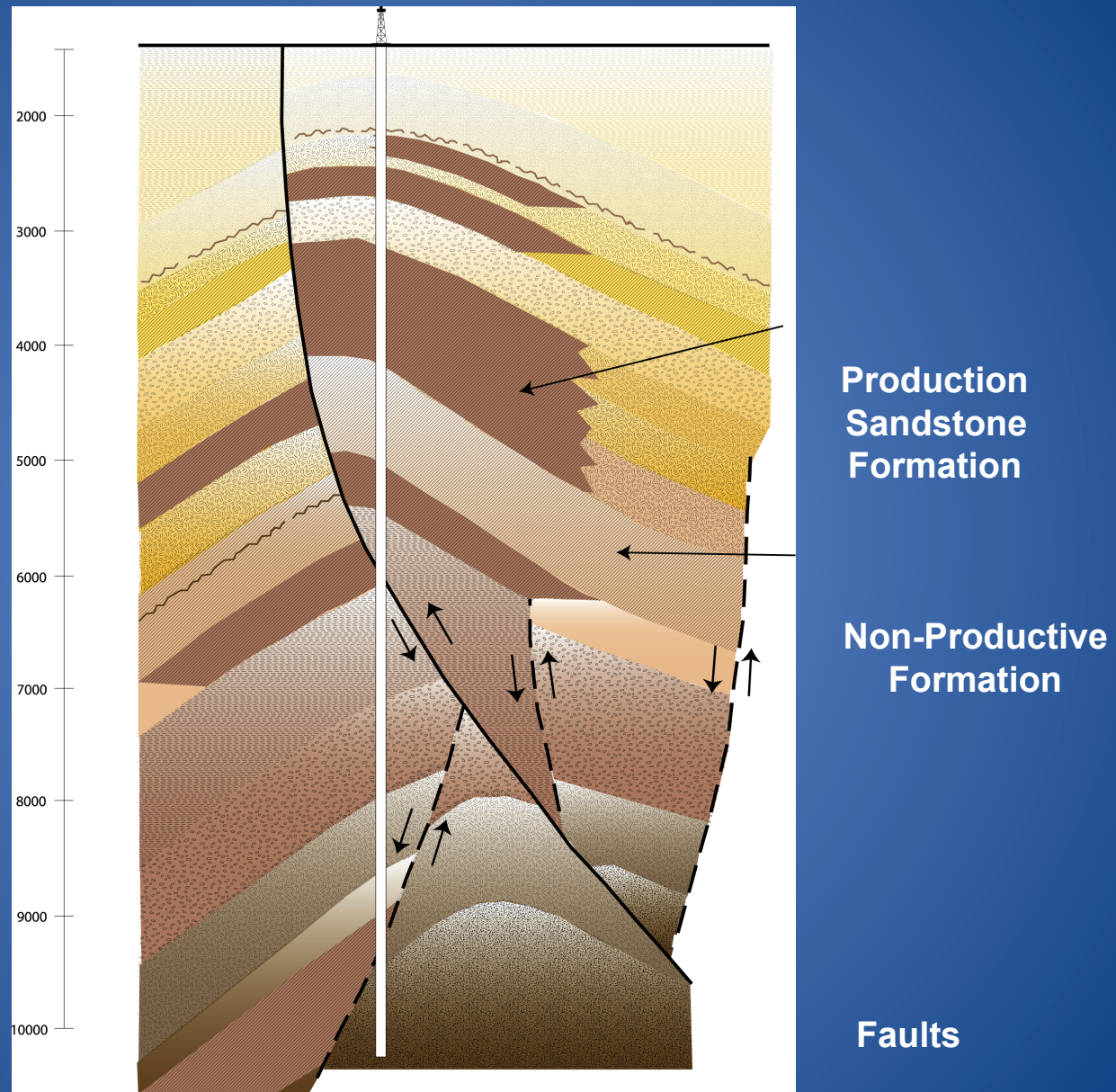
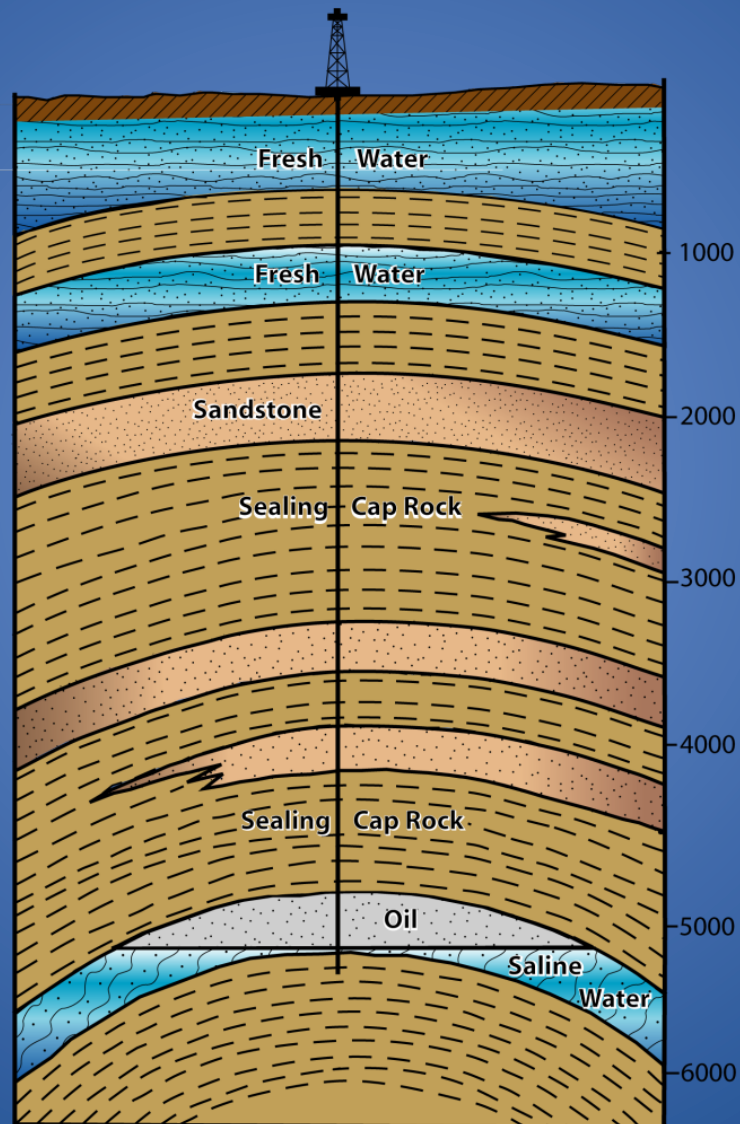


# Discussion Draft of Proposed Hydraulic Fracturing Regulations

# Oil Field Cross Section

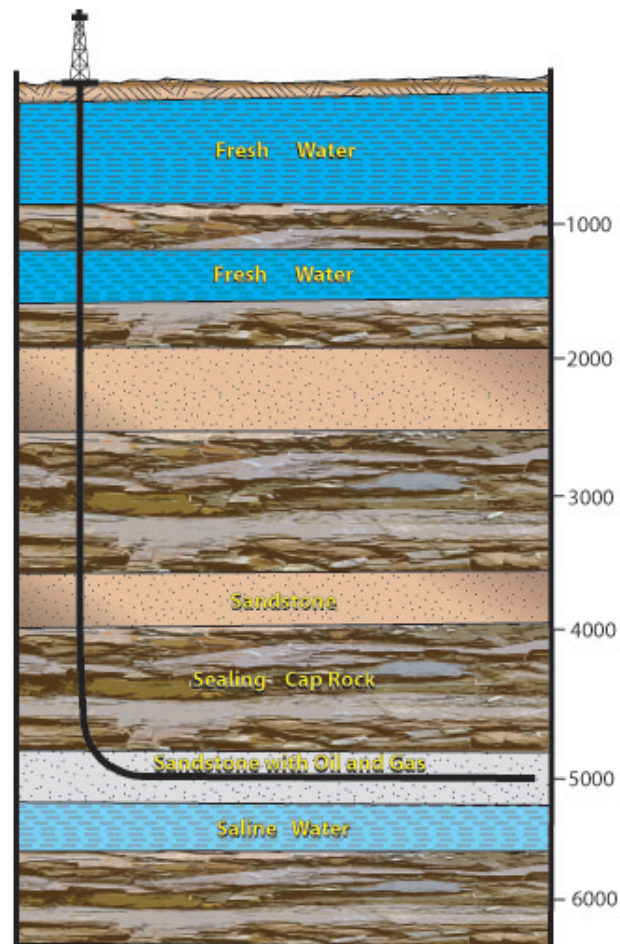


# Simplified Geology of Conventional Oil and Gas

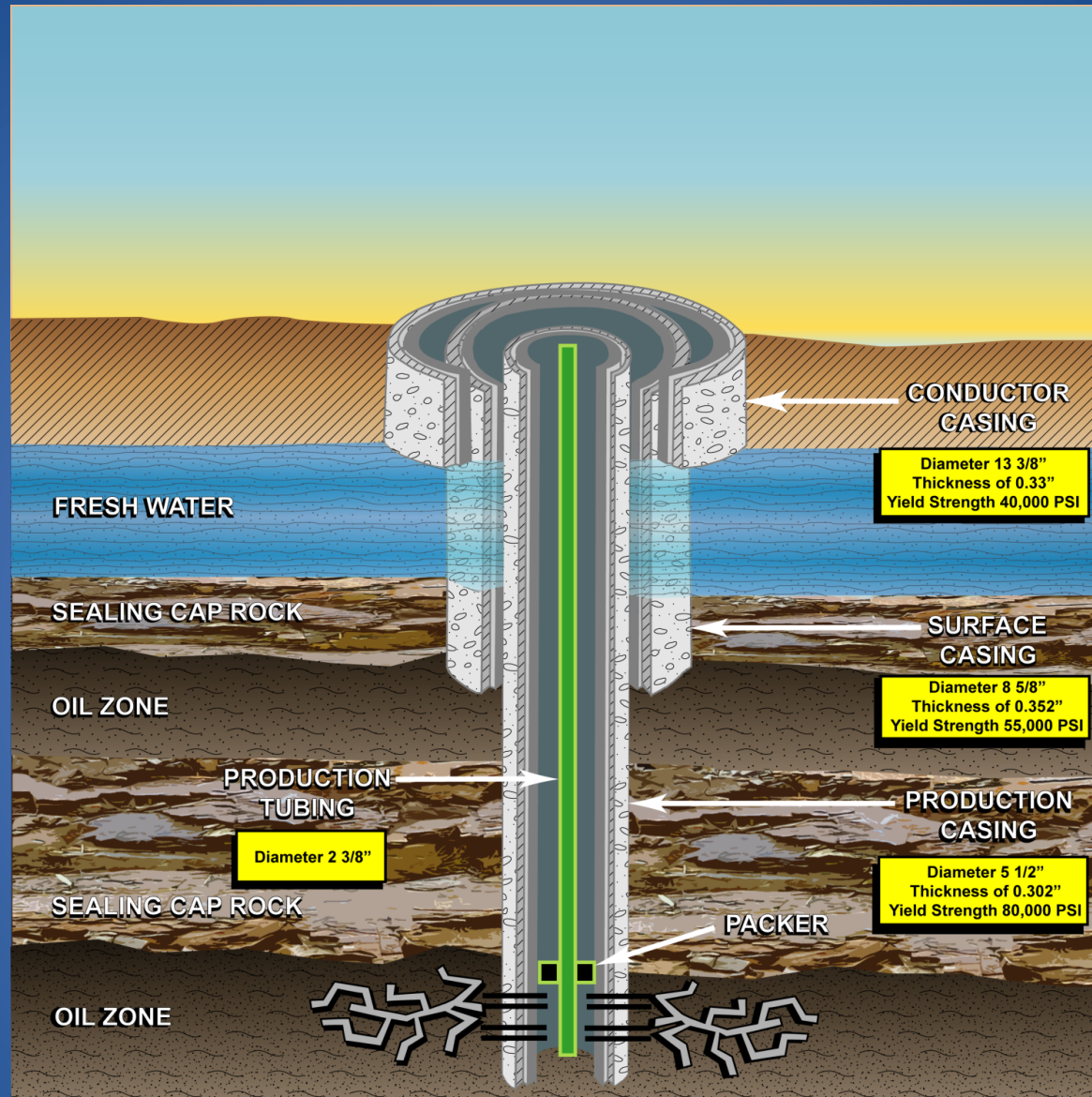




# Horizontal Well Completion



Typical  
Well Casing  
with Packer and  
Fracking  
(not to scale)



# Section I: Pre-Fracturing Well Testing

- Cement evaluation logs
- Fracture radius analysis
- Well pressure testing
- Surface equipment testing

## Section II: Advance Notification

- 10-day+ Notice to DOGGR and RWQCB
- DOGGR posting no more than 7-days after receiving HF-1
- 24-hour notice of fracturing ops to allow observation of HF

## Section III: Monitoring During & After Fracturing Operations

- Continuous monitoring
- Stop operations due to pressure spike/drop, fluid volume return outside expectation, any reason to suspect casing breach
- Daily monitoring x 30 days after HF
- Monthly monitoring x 5 years after HF



## Section IV: Disclosure of Materials Used in Fracturing Fluid

- Disclosure details – operator, well, depth, fluid content, tracers?, volume
- Apply to all HF operations
- Use FracFocus

## Section V: Trade Secrets

- California Uniform Trade Secrets Act applies
- Trade secret law prevents public disclosure of trade secrets but it does not prevent regulatory agencies from obtaining the information as needed
- Two goals for regulations:
  - Establish procedure for asserting trade secret claim
  - Specify when trade secret information must be provided to DOGGR or others

## Section V: Trade Secrets

- Must disclose if spill/release, medical treatment need, investigation
- Trade secret information disclosed to DOGGR or other entity must be maintained as confidential

# Section VI: Storage and Handling of Hydraulic Fracturing Fluids

- Storage of HF fluids in compliance with existing facilities regulations
- Spill Contingency Plan inclusion
- No unlined sump storage
- Spill clean-up and reporting



